

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
19 May 2005 (19.05.2005)

PCT

(10) International Publication Number  
**WO 2005/044854 A2**

(51) International Patent Classification<sup>7</sup>: **C07K 16/00**

CA 94662-8097 (US). **HURST, Deborah** [US/US];  
Chiron Corporation, P.O.Box 8097, Emeryville, CA  
94662-8097 (US).

(21) International Application Number:  
PCT/US2004/037152

(22) International Filing Date:  
4 November 2004 (04.11.2004)

(74) Agent: **ALEXANDER, LiSA, E.**; Chiron Corporation, In-  
tellectual Property Department, P.O.Box 8097, Emeryville,  
CA 94662-8097 (US).

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/517,337 4 November 2003 (04.11.2003) US  
60/525,579 26 November 2003 (26.11.2003) US  
60/565,710 27 April 2004 (27.04.2004) US

(81) Designated States (*unless otherwise indicated, for every  
kind of national protection available*): AE, AG, AL, AM,  
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,  
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,  
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,  
ZW.

(71) Applicant (*for all designated States except US*): **CHI-  
RON CORPORATION** [US/US]; 4560 Horton Street,  
Emeryville, CA 94608-2916 (US).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **LONG, Li** [CA/US];  
Chiron Corporation, P.O. Box 8097, Emeryville, CA  
94662-8097 (US). **LUQMAN, Mohammad** [US/US];  
Chiron Corporation, P.O. Box 8097, Emeryville, CA  
94662-8097 (US). **YABANNAVAR, Asha** [US/US];  
Chiron Corporation, P.O. Box 8097, Emeryville, CA  
94662-8097 (US). **ZAROR, Isabel** [US/US]; Chiron  
Corporation, P.O. Box 8097, Emeryville, CA 94662-8097  
(US). **CHEN, Bao-Lu** [US/US]; Chiron Corporation,  
P.O. Box 8097, Emeryville, CA 94662-8097 (US). **LU,  
Xiaofeng** [CN/US]; Chiron Corporation, P.O.Box 8097,  
Emeryville, CA 94662-8097 (US). **LEE, Sang, Hoon**  
[KR/US]; Chiron Corporation, P.O.Box 8097, Emeryville,

(84) Designated States (*unless otherwise indicated, for every  
kind of regional protection available*): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,  
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,  
FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE,  
SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,  
GW, ML, MR, NE, SN, TD, TG).

**Published:**

— *without international search report and to be republished  
upon receipt of that report*

*For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.*

(54) Title: **ANTAGONIST ANTI-CD40 MONOCLONAL ANTIBODIES AND METHODS FOR THEIR USE**

(57) Abstract: Methods of therapy for treating diseases mediated by stimulation of CD40 signaling on CD40-expressing cells are provided. The methods comprise administering a therapeutically effective amount of an antagonist anti-CD40 antibody or antigen-binding fragment thereof to a patient in need thereof. The antagonist anti-CD40 antibody or antigen-binding fragment thereof is free of significant agonist activity, but exhibits antagonist activity when the antibody binds a CD40 antigen on a human CD40-expressing cell. Antagonist activity of the anti-CD40 antibody or antigen-binding fragment thereof beneficially inhibits proliferation and/or differentiation of human CD40-expressing cells, such as B cells.



**WO 2005/044854 A2**